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## NOTICE OF ALLOWANCE AND FEE(S) DUE

23117 7590 02/02/2010

NIXON & VANDERHYE, PC  
901 NORTH GLEBE ROAD, 11TH FLOOR  
ARLINGTON, VA 22203

EXAMINER

LEE, R P A

ART UNIT

PAPER NUMBER

1796

DATE MAILED: 02/02/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,280	06/15/2006	Yundong Wang	4662-140	5147

TITLE OF INVENTION: POLYMER COMPOSITION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/03/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to:** Mail **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
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**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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23117 7590 02/02/2010

**NIXON & VANDERHYE, PC**  
**901 NORTH GLEBE ROAD, 11TH FLOOR**  
**ARLINGTON, VA 22203**

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,280	06/15/2006	Yundong Wang	4662-140	5147

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/03/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
LEE, RIP A	1796	524-240000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB-122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB-47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_  
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_  
3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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23117	7590	02/02/2010	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			LEE, RJP A	
			ART UNIT	PAPER NUMBER

1796

DATE MAILED: 02/02/2010

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability****Application No.**

10/566,280

**Applicant(s)**

WANG ET AL.

**Examiner**

RIP A. LEE

**Art Unit**

1796

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 01 December 2009.
2. ☒ The allowed claim(s) is/are 1-10 and 13-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

/David Wu/  
Supervisory Patent Examiner, Art Unit 1796

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### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Claim 1, line 5        replace "a-olefin" with " $\alpha$ -olefin"

Claim 1, line 12     replace "wt.%" with "wt %"

Claim 14, line 2     replace "a-olefin" with " $\alpha$ -olefin"

Claim 15, line 2     replace "a-olefin" with " $\alpha$ -olefin"

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*Allowable Subject Matter*

The following is an examiner's statement of reasons for allowance: Claims 1-10 and 13-21 are allowed over the closest references cited below.

The present invention is drawn to a thermoplastic elastomer composition consisting of a thermoplastic polyolefin, a dynamically vulcanized elastomer consisting of monomer units of ethylene, an  $\alpha$ -olefin, and optionally one or more non-conjugated polyenes and oil, 0.5 to 3.0 parts per 100 parts of elastomer of a phenolic resin vulcanizing agent, wherein the composition has an oil/elastomer ratio of at least 2.1/1 and a content of thermoplastic polyolefin of less than 10 wt % relative to the total weight of the thermoplastic elastomer composition, and a hardness of below 35 Shore A at a delay time of 15 seconds, and wherein a granulate of the composition is capable of flowing out of a cylinder held in a vertical position within 120 seconds after being kept in the cylinder under a pressure of 465 kg/m<sup>2</sup> at a temperature of 50 °C for a period of 1 hour. See claims for full details.

Ouhadi (EP 757 077) discloses a composition comprising 26.82 wt % of V 3666 EPDM (contains 42.9 % extender oil and 57.1 % elastomer; ethylene content of 58 wt % and an ethylidene-norbornene content of 4.5 wt %), 7.77 wt % of RP 210 polypropylene resin, 35.17 wt % of Flexon 876 processing oil, and 14.30 wt % of Cariflex 1220 butadiene rubber. Cure is achieved with 1.40 wt % of SP 1045 phenolic resin. The overall composition exhibits a Shore A hardness (5 sec) of 34 and good surface aspect. Butadiene rubber is excluded in the claimed invention, and therefore, the claimed invention is patentably distinct over that taught in Ouhadi.

Hamanka *et al.* (U.S. 5,187,224) teaches a composition prepared by partially crosslinking 69 parts by weight (pw) of EPDM (3-20 wt % of ethylidene norbornene), 69 pw of oil, 17 pw of propylene-butene copolymer, and compounding the crosslinked product with 100 pw of SEBS elastomer, 15 pw of propylene-ethylene copolymer, and 250 pw of oil. The overall composition exhibits a Shore A hardness (instantaneous) of 24. SEBS rubber is excluded in the claimed invention, and therefore, the claimed invention is patentably distinct over that taught in Hamanka *et al.*

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Tanaka (U.S. 5,349,005) teaches a dynamically vulcanized composition comprising 100 parts by weight (pw) of EPDM (ethylidene norbornene), 40 pw of crystalline ethylene-propylene block copolymer, 15 pw of low molecular weight polypropylene homopolymer, 400 pw of a paraffinic mineral oil (KV<sub>40</sub> = 100 cSt), and 5 pw of phenolic resin curing agent wherein said composition exhibits a Shore A hardness of 21. Ethylene-propylene block copolymer is excluded in the claimed invention, and therefore, the claimed invention is patentably distinct over that taught in Tanaka.

Dozeman (U.S. 2005/0215717) teaches a dynamically vulcanized composition comprising between 5-10 wt % of thermoplastic polyolefin, elastomer selected from EPM and/or EPDM. The composition comprises 155-250 parts of oil per 100 parts of elastomer, and the oil/elastomer weight ratio is above 1.7. Working examples show a composition comprising 8.8 wt % of polypropylene homopolymer, 29.32 wt % of EPDM, and 58.70 wt % of oil (oil/EPDM ratio = 2.0) exhibiting a Shore A hardness of 30. This sample is vulcanized using a peroxide rather than the claimed phenolic resin vulcanizing agent in an amount of 0.5 to 3.0 parts by weight. Another sample in which phenolic resin is used as vulcanizing agent is comprised of 10.4 wt % of a combination two different of polypropylene homopolymer, 59 wt % of EPDM, and 30 wt % of oil (oil/EPDM ratio = 2.0). This sample exhibits a Shore A hardness of 42, which lies outside the claimed range. The closest working examples do not meet the requisites set forth in instant claims. Based on the disclosure of Dozeman, it is deemed that one of ordinary skill in the art would not have found it obvious to replace peroxide vulcanization agents taught in specification and working examples with a phenolic resin vulcanization agent shown in comparative examples in order to obtain a composition having a Shore A hardness of less than 35 and exhibiting the claimed granulometric properties.

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Schepers *et al.* (WO 97/39059) teaches a composition comprising 11.8 wt % of thermoplastic polyolefin, 28 wt % of EPDM, 46 wt % of extender oil (oil/elastomer ratio of 1.6 does not meet claimed ratio), 11 wt % of talc, and phenolic resin curative. The composition exhibits a Shore A hardness of 27. This example is relevant in that it is possible to obtain a composition similar in constitution having the claimed Shore A hardness.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rip A. Lee/  
Examiner, Art Unit 1796  
January 25, 2010

/David Wu/  
Supervisory Patent Examiner, Art Unit 1796